IMPERIAL BUREAU OF ANIMAL NUTRITION

Technical Communication No. 10

TABLE OF COMPOSITION OF FOODS

Giving the Energy Value, Protein, Fat, Carbohydrate, Calcium, Phosphorus and Iron Content of some 300 Foods commonly used in Great Britain and compiled for Use in the Analysis of Dietary Surveys

From

The Biochemical Department, Rowett Research Institute

and

The Imperial Bureau of Animal Nutrition

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FOREWORD.

NUMEROUS tables of composition of human foods have been published, but no single one of these provides analyses of a sufficient number of foods to permit of satisfactory assessment of the value of a series of diets as collected in dietary surveys. Even when all have been searched, many foods remain for which no analysis has been published, and in such cases, either the foods not listed must be omitted from the assessment or analyses must be made.

In the table now presented an attempt has been made to collect all the reliable information available on the composition of foods commonly used in Great Britain. Data have been taken from the following :—

BRIDGES, M. A. Food and beverage analyses. Henry Kimpton, London, 1935.

FABER, A. and NORGAARD, A. Haandbog i diætetik, 2 Ed., Levin and Munksgaard, Copenhagen, 1934.

MCCANCE, R. A. and SHIPP, H. L. The chemistry of flesh foods and their losses on cooking. M.R.C. Spec. Rep. Ser. No. 187, H.M.S.O., London, 1933.

MCCANCE, R. A., WIDDOWSON, E. M. and SHACKLETON, L. R. B. The nutritive value of fruits, vegetables and nuts. M.R.C. Spec. Rep. Ser. No. 213, H.M.S.O., London, 1936.

MOTTRAM, V. H. and RADLOFF, E. M. Food tables. Edward Arnold & Co., London, 1937.

PLIMMER, R. H. A. Analyses and energy values of foods. H.M.S.O., London, 1921.

RICHMOND, H. D. Dairy chemistry. Charles Griffin & Co., London, 1920.

SHACKLETON, L. and MCCANCE, R. A. The ionisable iron in foods. Biochem. J., 1936, **30**, 582.

SHERMAN, H. C. Chemistry of food and nutrition. 4 Ed., Macmillan Co., New York, 1935.

WOOD, T. B. and NEWMAN, L. F. Beef production in Great Britain. Silcock & Sons, Ltd., Liverpool, 1928.

These have been supplemented with data supplied by the courtesy of manufacturers of certain proprietary foods, and by analyses made for

and communicated by Dr. H. E. Magee of the Ministry of Health, or made at the Rowett Research Institute. Since the detailed presentation of the sources from which the figures are derived would add considerably to the cost of publishing this Communication, no indication of these is given, but if information as to any particular set of figures is desired by any reader, this can be furnished.

It is admitted that differences exist between the values for any given food, as determined by different workers, and by the same worker on different samples of the same food. The importance of this variation in the study of a series of diets does not appear to be great. In 1934 Bigwood and Roost * determined the percentage difference in average composition (protein, carbohydrate, fat and energy value) of 19 Belgian working-class diets, using 7 different tables of composition, to be not more than $\pm 3\ \%$ of the mean. Such a difference is altogether insignificant in comparison with the differences in the average composition of the diets of different social groups as determined by any one table.

A point of some importance, however, is the question of the probable change within recent years in composition of beef and pork, due to changes in the practice of animal husbandry. The composition of a joint of "baby beef" is without doubt different from that of an animal fattened in the manner customary 20 years ago. The same is true of pig meat.

For this reason, the values for protein and fat of beef are derived solely from Wood and Newman's tables, which have reference to present day fattening practice.

Recently, figures for the analysis of bacon and ham from Danish and English pigs have been circulated by the Research Department of the Bacon Development Board.† Since their figures for bacon and ham show a higher protein and lower fat content than those found by Plimmer, the difference in the assessed total protein and total fat contents of representative diets, when these two sets of figures are used, has been estimated for both upper and poor class diets, and found not to exceed $+ 1\ \%$ for protein and $- 2\ \%$ for fat. These differences are also insignificant in comparison with the differences between individual and group diets.

* Bigwood, E.-J. and Roost, G. L'alimentation rationnelle. 1934. Inst. Sociol. Solvay, Brussels.

† Bacon Development Board (Research Department). Rep. No. 8. The nutritive value of bacon and ham. London, 1937. (Not published.)

While, therefore, no claim is made that the figures here presented will give an absolutely accurate picture of the composition of any one diet, it is felt that they will indicate, with a reasonable degree of reliability, the composition of sample groups of diets, and that any differences which might be found by using other tables of composition will be well within the error of sampling.

Every effort has been made to make the tables as reliable as possible. Most of the figures for the iron content of foods have been taken from the publications of McCance and his co-workers or analyses made at the Rowett Research Institute. Although the question of the availability of iron in foods cannot be regarded as finally settled, it has been thought worth while to present figures which would make possible a rough assessment of " available " (ionisable) iron. Where no actual determinations have been recorded for particular foods, but where McCance has determined the availability of the iron in the class of foods to which they belong, this percentage availability has been applied.

In some cases assessments, based on the known composition of similar foods, have also been made for other constituents. In all such cases the figures given are printed in brackets.

Energy values have been calculated from the protein, carbohydrate and fat content by the use of the factors 4·1, 4·1 and 9·3.

All the data refer to edible portion of the foods, and in order to determine the weight of edible material, deductions for inedible material must be made from " as purchased " weight. The figures given for percentage waste represent only inedible material, and are derived in part from published data and in part from the values ascertained in the course of intensive dietary surveys of a considerable number of households, representative of different social grades and different districts.

These waste figures are for use only in extensive surveys. In intensive surveys, where waste is recorded, the amounts actually determined should, of course, be deducted. No allowance is made for table waste. The value of a diet assessed from this table is its potential value, not necessarily the value of the food actually consumed.

To complete the assessment of diets account must be taken of the vitamin content. Tables giving recent data in International Units for vitamins A, B_1, B_2, C and D will be found in *Nutrition Abstracts and Reviews*, 1938, **7**, 823.

TABLE OF COMPOSITION OF FOODS.

All data refer to edible portion. They show energy value in calories, and constituents in g., or in the case of Fe in mg., per 100 g.

[Note : values for raw milk, cream and eggs are also given per pint or per egg.]

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
MILK AND MILK PRODUCTS									
MILK, RAW									
Whole, per cent.	66	3·4	4·8	3·5	0·120	0·099	0·12	0·12	
,, per pint	376	19·2	27·3	19·9	0·680	0·560	0·70	0·70	
Skimmed, per cent.	36	3·6	4·9	0·1	0·120	0·099	0·12	0·12	
Skimmed, per pint	204	20·4	27·8	0·6	0·680	0·560	0·68	0·68	
Butter, per cent.	34	3·4	3·8	0·5	0·105	0·097	0·25	0·25	
,, per pint	193	19·3	21·6	2·8	0·596	0·551	1·42	1·42	
MILK, CONDENSED									
Whole	196	9·4	14·0	10·8	0·350	0·289	0·35	0·35	
Sweetened, whole	353	9·3	52·8	10·6	0·330	0·273	0·34	0·34	
,, skimmed	284	10·4	57·4	0·7	0·347	0·286	0·35	0·35	
MILK, DRIED									
Whole	469	24·5	35·1	24·2	0·870	0·720	0·89	0·89	
Part skimmed	405	26·5	45·0	12·1	0·940	0·780	0·96	0·96	
Wholly skimmed	352	32·8	49·8	1·4	1·160	0·860	1·19	1·19	
CREAM									
Double, per cent.	304	2·6	3·5	30·0	0·080	0·070	0·08	0·08	
,, per pint.	1742	14·9	20·1	171·9	0·458	0·401	0·46	0·46	
Single, per cent.	215	3·0	4·0	20·0	0·110	0·090	0·11	0·11	
,, per pint	1230	17·2	22·9	114·6	0·630	0·516	0·63	0·63	
ICE CREAM									
Good commercial	318	4·3	28·0	20·0	0·120	0·120	0·60	0·60	
Poor ,,	194	4·0	20·5	10·0	0·140	0·110	0·25	0·25	
BUTTER	772	0·2	—	83·0	0·015	0·017	0·20	0·20	
CHEESE									
Whole milk (average)	411	28·0	2·0	31·0	0·931	0·683	1·30	1·30	5
St. Ivel Lactic	393	22·8	—	32·2	0·600	0·569	(1·30)	(1·30)	
Skimmed milk	194	33·0	3·0	5·0	0·931	0·683	(1·30)	(1·30)	
Cream	549	5·3	1·3	56·1	0·635	0·528	(1·30)	(1·30)	
EGGS									
Hen, per cent.	160	12·4	0·7	11·5	0·067	0·180	2·50	2·50	12 (shell)
,, per egg	81	6·3	0·4	5·8	0·034	0·091	1·26	1·26	12 ,,
Pullet, per egg	63	4·9	0·3	4·6	0·026	0·071	0·99	0·99	12 ,,
Duck, per cent.	198	12·2	0·7	15·6	(0·067)	(0·180)	(2·50)	(2·50)	12 ,,
,, per egg	111	6·9	0·4	8·8	(0·038)	(0·101)	(1·41)	(1·41)	12 ,,
Turkey, ,,	116	9·0	0·5	8·3	0·048	0·130	1·81	1·81	12 ,,

TABLE OF COMPOSITION OF FOODS (*continued*).

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
MEATS									
BEEF									(Including bone)
Boiling									
Silverside	290	16·1	—	24·1	0·009	0·174	3·54	0·35	13
Aitch bone	366	12·7	—	33·8	0·007	0·137	3·54	0·35	29
Brisket	465	10·1	—	45·6	0·006	0·109	3·54	0·35	21
Plate	509	10·7	—	50·0	0·006	0·115	3·54	0·35	16
Average of 4	*408*	*12·4*	—	*38·4*	*0·007*	*0·134*	*3·54*	*0·35*	20
Stewing									
Thick flank	352	12·9	—	32·2	0·007	0·139	3·54	0·35	7
Chuck	291	15·8	—	24·4	0·009	0·170	3·54	0·35	18
Clod	340	13·3	—	30·7	0·008	0·143	3·54	0·35	25
Leg or shin (fore and hind)	177	18·5	—	10·9	0·011	0·199	3·54	0·35	54
Average of 4	*290*	*15·1*	—	*24·5*	*0·009*	*0·163*	*3·54*	*0·35*	26
Roasting									
Topside	290	16·1	—	24·1	0·009	0·174	3·54	0·35	13
Sirloin	381	12·9	—	35·3	0·007	0·139	3·54	0·35	15
Wing rib	423	12·3	—	40·1	0·007	0·133	3·54	0·35	18
6-rib	465	11·5	—	44·9	0·007	0·124	3·54	0·35	22
3-rib	392	13·0	—	36·4	0·007	0·140	3·54	0·35	23
Aitch bone	366	12·7	—	33·8	0·007	0·137	3·54	0·35	29
Chuck	291	15·8	—	24·4	0·009	0·170	3·54	0·35	18
Average of 7	*372*	*13·5*	—	*34·1*	*0·008*	*0·145*	*3·54*	*0·35*	20
Grilling									
Rump	425	11·9	—	40·5	0·007	0·128	3·54	0·35	16
Thick flank	352	12·9	—	32·2	0·007	0·139	3·54	0·35	7
Average of 2	*389*	*12·4*	—	*36·4*	*0·007*	*0·134*	*3·54*	*0·35*	11
Average of 15, boiling, stewing and roasting	*353*	*13·6*	—	*32·7*	*0·008*	*0·147*	*3·54*	*0·35*	22
Offal									
Kidney, Ox	98	18·1	—	2·6	0·014	0·262	15·00	10·00	
Liver, Ox	129	19·9	4·4	3·2	0·012	0·220	6·70	6·00	
Oxtail (whole)	216	22·1	—	13·5	0·013	0·238	3·32	(0·33)	47
Sausage	273	11·2	15·2	17·7	0·002	0·027	4·18	3·00	
Tongue (whole)	See tongue proper after allowing for waste.								73
,, (proper)	243	15·6	—	19·2	0·008	0·199	(5·80)	(1·16)	
Tripe	59	11·7	—	1·2	0·069	0·071	0·86	(0·61)	
Sweetbread	238	21·8	—	16·0	0·064	0·213	1·47	1·04	
Heart	260	16·0	1·0	20·4	0·009	0·172	4·80	(3·20)	
VEAL	175	19·9	—	10·0	0·015	0·223	0·93	0·37	10
MUTTON									
Boiling or stewing									
Neck	466	12·3	—	44·7	0·007	0·132	(3·54)	(0·35)	22
Shoulder	389	14·3	—	35·5	0·008	0·154	(3·54)	(0·35)	16

TABLE OF COMPOSITION OF FOODS (*continued*).

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
Roasting									
Leg	335	16·7	—	28·7	0·010	0·180	(3·54)	(0·35)	14
Loin or Chop	597	10·0	—	59·8	0·006	0·108	(3·54)	(0·35)	18
Offal									
Kidney	103	17·1	—	3·5	0·014	0·262	11·70	(7·80)	
Liver	126	21·5	2·5	3·0	0·012	0·220	(6·70)	(6·00)	
Tongue	307	12·4	—	27·5	(0·008)	(0·199)	(5·80)	(1·16)	
PORK									
Bacon *Av. of back, gammon and streaky*	*550*	*9·0*	—	*55·2*	*0·010*	*0·096*	*2·50*	*0·80*	5
Ham, raw	491	12·4	—	47·3	0·011	0·211	1·40	(0·21)	14
Roasting									
Leg	210	19·3	—	14·1	0·014	0·256	1·70	0·82	16
Loin	424	15·4	—	38·8	0·011	0·199	1·40	0·66	16
Sausage	273	11·2	15·2	17·7	0·002	0·027	3·39	2·75	
Sausage slice	254	14·1	43·0	2·2	0·064	0·130	10·00	8·00	
MEAT EXTRACTS									
Bovril	166	40·6	—	trace	trace	1·800	trace	—	
Liebig's (Lemco)	53	13·0*	—	—	trace	6·900	4·80	—	
Oxo	151	27·0*	—	4·3	trace	2·300	14·00	—	
BONE †	48	3·0	—	3·8	0·010	0·013	0·40	0·40	
COOKED MEATS, COLD									
Beef, boiled or stewed	209	32·0	—	8·4	0·003	0·238	6·70	1·34	
,, roast	224	26·8	—	12·3	0·007	0·284	5·20	1·04	
,, corned	308	15·6	—	26·2	0·016	0·291	4·10	1·40	
Ox tongue	300	19·1	—	23·9	0·031	0·229	5·80	1·16	
Veal, roast	232	30·5	—	11·5	0·014	0·355	1·35	0·74	
,, and ham paste	202	16·5	8·3	10·8	0·003	0·009	0·09	(0·04)	
,, ,, ,, roll	321	21·5	2·9	23·8	0·057	0·147	3·20	(0·80)	
Mutton, roast	292	25·0	—	20·4	0·004	0·242	5·10	1·25	
Sheep tongue, canned	323	24·4	—	24·0	0·031	0·229	(5·80)	(1·16)	
Pork, roast	317	24·6	—	23·2	0·005	0·363	1·70	0·80	
Ham, boiled	282	22·1	—	20·6	0·012	0·218	4·45	0·67	
Black puddings	162	20·2	11·7	3·4	0·016	0·070	20·50	(2·05)	4
Meat pie	413	8·0	49·2	19·2	0·009	0·088	1·15	(0·60)	
Potted meat	207	23·6	—	11·8	0·013	0·258	3·50	(0·70)	
POULTRY AND GAME									
Fowl	132	24·3	—	3·5	0·011	0·249	2·10	0·50	55
Duck	515	12·1	—	50·0	0·007	0·130	(2·10)	(0·50)	40
Goose	321	18·3	—	26·4	0·011	0·197	(2·10)	(0·50)	55
Turkey	164	22·5	—	7·7	0·013	0·242	(2·10)	(0·50)	48
Game birds (average)	163	22·9	—	7·4	(0·013)	(0·242)	(2·10)	(0·50)	50
Rabbit	121	22·2	—	3·2	0·048	0·159	1·90	0·80	23 (52 undressed)
Hare	107	21·9	—	1·9	0·013	0·236	(1·90)	(0·80)	62 (undressed)
Cooked fowl	196	27·9	—	8·8	0·013	0·270	2·35	(0·60)	

* True protein.

† Amount extracted from 100 g. bone boiled for 4 hours.

TABLE OF COMPOSITION OF FOODS (*continued*).

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
FISH									
Fresh Fish are divided into three groups: (1) white fish—incl. cod, haddock, ling and whiting. (2) flat fish—incl. dab, flounder, halibut, hake, plaice, sole and turbot. (3) fat fish—incl. herring, mackerel, and salmon.									
(1) White fish	78	18·1	—	0·4	0·020	0·208	0·50	0·50	32
(2) Flat ,,	83	17·6	—	1·3	0·019	0·202	0·52	0·52	43
(3) Fat ,,	201	18·4	—	13·5	0·020	0·211	1·03	0·78	33
Eel	288	14·1	—	24·7	0·015	0·162	0·51	(0·34)	41
Herring with roe	203	20·1	—	13·0	0·022	0·231	1·00	(0·50)	32
Skate	101	24·3	—	0·2	0·026	0·270	0·33	0·33	35
Canned									
Salmon	202	21·8	—	12·1	0·024	0·250	0·89	0·84	2
Sardines in oil	220	24·8	—	12·7	0·025	0·264	3·44	2·29	
Fried									
Skate (batter and crumbs)	235	15·0	7·5	15·3	0·019	0·238	0·70	0·70	17
Smoked									
Haddock	83	19·5	—	0·3	0·021	0·224	(0·50)	(0·50)	24
Herring (kipper)	215	18·8	—	14·8	0·020	0·216	1·38	0·80	25
,, (bloater)	201	17·3	—	14·0	0·019	0·199	1·02	0·40	22
Dried									
Cod or Whiting	321	75·0	—	1·5	0·082	0·861	4·12	4·12	1
Roe									
Shad	132	20·9	2·6	3·8	0·023	0·241	0·63	0·63	
SHELL FISH									
Lobster	86	16·4	0·4	1·8	0·020	0·208	0·44	(0·36)	63
FATS									
ANIMAL									
Dripping	930	—	—	100·0	—	—	—	—	
Lard	930	—	—	100·0	—	—	—	—	
Suet, beef	873	1·2	—	93·3	—	—	—	—	
VEGETABLE									
Margarine	789	0·2	—	84·8	—	—	—	—	
Trex	930	—	—	100·0	—	—	—	—	
VEGETABLES									
Roots									
Potatoes, old	82	1·9	18·1	trace	0·013	0·057	0·60	0·60	30
,, new	90	1·6	20·4	,,	0·013	0·057	0·60	0·60	5
,, chips	252	3·8	37·3	9·0	0·014	0·072	1·35	1·35	

TABLE OF COMPOSITION OF FOODS (*continued*).

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
VEGETABLES (*cont.*)									
ROOTS (*cont.*)									
Beetroot	31	1·2	6·2	0·1	0·029	0·039	0·50	0·47	30
Carrot	45	1·2	9·6	0·1	0·056	0·046	0·56	0·56	5 new : 20 old.
Parsnip	53	1·7	11·3	—	0·055	0·069	0·57	0·57	26
Radish	18	0·8	3·3	0·1	0·021	0·029	1·68	1·04	54
Swede	38	1·0	8·1	0·1	0·056	0·019	0·41	0·39	15
Turnip	24	1·2	4·4	0·1	0·064	0·046	0·33	0·22	13 new : 30 old.
GREEN VEGETABLES									
Cabbage	42	1·3	8·7	0·1	0·045	0·029	0·98	0·70	30
,, red	41	2·5	7·1	0·2	0·053	0·032	0·57	0·41	30
,, savoy	34	2·3	5·5	0·2	0·053	0·032	0·98	0·70	30
Kale, curly	56	3·9	8·8	0·4	0·197	0·072	2·54	1·78	31
Lettuce	9	0·7	1·2	0·1	0·043	0·042	0·80	0·50	36
Parsley	66	3·1	11·7	0·6	0·045	0·029	10·00	5·00	
Spinach	21	1·8	2·9	0·2	0·067	0·068	2·96	2·01	
Sprouts, brussels	40	3·6	5·7	0·2	0·027	0·120	0·67	0·50	23
Watercress	20	1·3	3·0	0·3	0·187	0·005	2·08	1·39	
LEGUMES									
Fresh									
Bean, broad, in pods	109	6·9	19·0	0·3	0·028	0·133	1·08	1·00	64
,, French	28	1·9	4·8	0·1	0·046	0·052	0·57	0·49	9
Pea, in pod	89	5·4	15·2	0·5	0·028	0·127	1·77	1·31	57
Dried									
Bean, butter	297	19·2	49·8	(1·5)	0·085	0·318	5·92	(4·91)	
,, haricot	288	21·4	45·5	(1·5)	0·180	0·309	6·65	5·52	
Lentil (split red)	348	20·1	63·9	0·4	0·107	0·438	7·63	5·09	
Pea, split	354	22·1	62·4	0·8	0·084	0·400	5·41	4·38	
,, whole	323	20·4	57·1	0·6	0·084	0·400	(5·41)	(4·38)	
Peasemeal	369	24·7	61·1	1·9	0·066	0·377	3·87	(3·10)	
OTHER VEGETABLES									
Asparagus	31	3·1	4·3	0·1	0·025	0·039	1·00	(1·00)	43
Cauliflower	34	1·9	5·9	0·2	0·123	0·061	0·91	0·90	48
Celery	19	0·6	3·8	0·1	0·078	0·037	0·14	0·14	11
Chives	45	3·8	5·8	0·6	(0·034)	(0·045)	(0·40)	(0·40)	
Cucumber	12	0·6	2·0	0·1	0·016	0·033	0·25	0·25	17
Leek	50	2·5	9·3	0·1	0·058	0·006	0·77	0·70	56
Marrow, green	23	0·4	5·2	0·1	0·014	0·013	0·22	(0·19)	33
,, yellow	10	0·2	2·2	0·1	0·014	0·013	0·44	0·37	45
Mushroom	45	3·5	6·8	0·4	0·014	0·098	0·65	0·65	20
Onion, Spanish	20	0·6	4·1	trace	0·034	0·045	0·40	0·40	2
Pickles, sour mixed	4	0·5	0·3	—	—	—	—	—	
Shallot, bulbs	78	1·2	17·3	0·2	(0·034)	(0·045)	(0·40)	(0·40)	
VEGETABLES, CANNED									
Beans, baked (P. & T. sauce)	131	7·5	20·0	2·0	0·039	0·142	2·05	2·01	
Beetroot (strained)	38	1·5	7·5	0·1	0·017	0·037	1·60	1·50	
Carrot ,,	26	0·9	5·2	0·1	0·029	0·029	1·00	1·00	
Pea	56	3·4	10·0	0·1	0·026	0·169	2·10	2·10	

TABLE OF COMPOSITION OF FOODS (*continued*).

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
FRUIT									
FRESH									
Apple	47	0·3	10·8	0·2	0·007	0·012	0·23	0·21	9
Apricot	59	1·1	13·4	—	0·014	0·025	0·37	0·35	6
Banana	108	1·2	24·9	0·1	0·009	0·031	0·47	0·47	43
Cherry	57	0·9	12·8	0·1	0·019	0·031	0·48	0·48	12
Currant, black	33	1·2	6·7	0·1	0·026	0·038	0·95	0·95	2
,, red	23	1·1	4·4	—	0·036	0·030	0·66	0·56	3
Gooseberry	28	0·7	6·0	0·1	0·035	0·031	0·58	0·23	
Grape fruit	27	0·6	5·7	0·1	0·021	0·020	0·11	0·10	30
Grape	60	0·6	13·9	0·1	0·019	0·031	0·24	0·20	5
Lemon	19	0·5	3·1	0·5	0·036	0·022	0·60	(0·48)	32
Melon	22	0·5	4·6	0·1	0·017	0·015	0·30	(0·26)	45
Orange	40	0·8	8·8	0·1	0·045	0·021	0·50	(0·42)	25
Peach	24	0·8	4·7	0·1	0·016	0·024	0·39	0·39	7
Pear	37	0·3	8·4	0·1	0·015	0·026	0·21	0·21	12
Plum	38	0·5	8·2	0·3	0·020	0·032	0·35	0·19	5
Raspberry	33	1·2	6·6	0·1	0·049	0·052	1·11	0·83	8
Rhubarb	18	0·6	3·6	0·1	0·044	0·031	0·38	0·38	33
Strawberry	37	0·7	8·2	0·1	0·041	0·028	0·71	0·36	5
Tomato	22	0·7	4·5	0·1	0·011	0·026	0·37	0·24	
CANNED									
Apricot, standard	105	0·7	25·0	—	0·010	0·020	0·65	(0·62)	
Cherry	84	0·6	20·0	—	0·059	0·017	0·27	(0·27)	
Fig	176	1·2	40·9	0·3	0·096	0·070	(2·50)	(2·38)	
Fruit salad, choice *	84	0·5	20·0	—	0·010	0·018	0·68	0·60	
Gooseberry	(68)	(0·7)	(16·0)	(0·1)	(0·035)	(0·031)	(0·58)	(0·23)	
Orange	62	0·5	14·7	—	0·023	0·013	1·14	(0·97)	
Peach	105	0·5	25·0	—	0·008	0·020	0·62	(0·62)	
Pear	84	0·4	20·0	—	0·008	0·014	0·65	(0·65)	
Pineapple	104	0·4	25·0	—	0·012	0·018	0·80	(0·73)	
Plum	105	0·5	25·0	—	0·015	0·011	2·22	(1·22)	
Prune	94	0·5	22·3	0·1	0·051	0·080	1·53	(1·10)	
Tomato	23	1·2	4·0	0·2	0·007	0·026	1·20	(0·77)	
,, puree	44	2·1	8·2	0·2	0·013	0·030	1·60	(1·02)	
DRIED									
Apple	250	0·9	58·7	0·6	0·032	0·048	1·50	(1·35)	
Apricot	229	5·5	49·6	0·3	0·065	0·120	4·08	4·00	
Currant	182	1·7	42·0	0·3	0·082	0·195	1·07	0·95	
Fig	245	2·0	56·5	0·5	0·162	0·116	4·17	4·00	
Fruit salad	(204)	(3·1)	(45·7)	(0·4)	(0·079)	(0·102)	(4·64)	(4·22)	
Peach	117	4·0	23·5	0·5	0·080	0·120	7·60	6·99	
Prune	181	3·0	40·4	0·3	0·054	0·105	3·20	2·30	16
Raisin	263	2·2	61·2	0·3	0·064	0·132	3·80	3·61	8
,, seedless	344	2·6	80·8	0·2	0·064	0·132	3·80	3·61	
Sultana	276	1·7	64·9	0·3	0·052	0·095	1·82	(1·72)	
OTHER PRESERVED FRUITS									
Candied peel	276	0·3	66·8	0·1	—	—	—	—	
Date	282	1·6	66·8	0·2	0·065	0·056	1·71	1·40	11

* Average of apricot, peach, pear, pineapple.

TABLE OF COMPOSITION OF FOODS (*continued*).

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
NUTS									
Almond	657	18·8	16·0	55·3	0·239	0·465	4·54	4·50	
Cocoanut, desicc.	581	4·3	44·5	41·0	0·059	0·155	(6·60)	(5·60)	
Walnut (dried)	731	13·6	14·0	66·4	0·089	0·358	1·83	0·75	
VITAMIN CONCENTRATES									
Bemax	409	34·0	46·5	8·5	0·058	1·110	8·20	5·80	
Cod Liver Oil	930	—	—	100·0	—	—	—	—	
Marmite	159	38·7*	—	—	0·980	1·886	4·60	(4·00)	
Virol	378	4·1	59·3	12·7	0·102	0·189	19·60	(8·00)	
CEREALS									
WHEAT									
Flour, whole	361	11·7	71·9	2·0	0·031	0·238	2·50	(2·30)	
,, white	367	12·6	73·1	1·7	0·020	0·092	1·00	0·93	
Bread crumbs	322	11·0	66·7	0·4	0·025	0·109	1·32	1·16	
,, white	261	8·9	54·0	0·3	0·020	0·088	1·07	0·94	
,, malt (Youma, Bermaline)	(255)	(7·7)	(46·8)	(3·4)	(0·018)	(0·126)	(1·26)	(1·13)	
,, brown	228	7·0	47·7	0·4	0·031	0·220	2·12	1·57	
,, currant	276	6·4	54·0	3·1	0·023	0·063	0·80	(0·72)	
Rolls, plain	295	12·2	58·4	0·6	0·059	0·130	1·59	1·43	
,, buttery	461	11·2	53·2	21·2	0·049	0·115	1·81	1·63	
,, soft biscuits	386	12·5	61·0	9·1	0·046	0·120	1·89	1·70	
,, brown	313	11·9	60·7	1·6	0·061	0·190	3·04	2·28	
Buns, plain	386	12·5	61·0	9·1	0·046	0·120	1·89	1·70	
,, mixed	394	9·4	57·1	13·0	0·044	0·240	2·88	2·59	
,, cream	(461)	(11·2)	(53·2)	(21·2)	(0·049)	(0·115)	(1·81)	(1·63)	
,, doughnuts	440	6·7	53·1	21·0	(0·049)	(0·115)	(1·81)	(1·63)	
Scones	(295)	(12·2)	(58·4)	(0·6)	(0·059)	(0·130)	(1·59)	(1·43)	
,, brown	(313)	(11·9)	(60·7)	(1·6)	(0·061)	(0·190)	(3·04)	(2·28)	
Biscuits, digestive	520	5·6	64·6	25·0	0·061	0·190	1·57	1·43	
,, ginger snaps	418	6·5	76·0	8·6	0·010	0·044	0·50	(0·45)	
,, plain	434	9·7	68·3	12·3	0·016	0·071	0·77	0·71	
,, sweet	521	6·4	64·2	24·9	(0·049)	(0·115)	(1·81)	(1·63)	
,, shortbread	543	5·7	61·7	28·7	(0·049)	(0·115)	(1·81)	(1·63)	
Allenbury's malted rusks	397	11·2	74·4	5·0	0·027	0·188	2·00	(1·80)	
Pastry	(515)	(7·2)	(56·1)	(27·4)	(0·011)	(0·053)	(0·57)	(0·53)	
Cakes, Dundee	402	5·1	59·5	14·8	(0·035)	(0·087)	(1·14)	(1·03)	
,, Genoa	385	4·4	60·1	13·0	0·035	0·087	1·14	(1·03)	
,, Fondant covered sandwich	463	6·1	63·6	19·1	0·065	0·133	1·00	(0·90)	
,, Jam tart	405	4·2	63·9	13·5	(0·065)	(0·133)	(1·00)	(0·90)	
,, Madeira	372	5·5	52·7	14·3	(0·035)	(0·087)	(1·14)	(1·03)	
,, Sponge sandwich	344	9·1	62·7	5·3	(0·035)	(0·087)	(1·14)	(1·03)	
,, Swiss roll	331	7·5	62·6	4·7	(0·035)	(0·087)	(1·14)	(1·03)	
,, Meringue (cases)	397	5·6	91·2	trace	0·008	0·007	1·60	(1·44)	
Viota tea cake mixt.	371	4·2	85·6	0·3	0·092	0·159	0·85	(0·77)	

* True protein plus soluble nitrogenous bases and amino compounds.

TABLE OF COMPOSITION OF FOODS (*continued*).

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
CEREALS (*cont.*)									
WHEAT (*cont.*)									
Puffed wheat	383	16·2	73·2	1·8	0·040	0·420	4·10	(3·69)	
Shredded wheat	369	9·8	77·7	1·1	0·041	0·324	4·50	(4·05)	
Tribrek breakfast food	397	12·3	75·8	3·9	0·126	0·285	3·84	(3·45)	
OTHER CEREALS									
Barley, meal	354	10·6	66·3	4·2	0·043	0·400	4·10	(3·69)	
,, pearl	364	7·0	79·9	0·8	0·020	0·181	(2·00)	(1·80)	
Cornflour	363	0·8	87·6	0·1	0·018	0·190	0·90	(0·81)	
Cornflakes	390	7·4	87·4	0·2	0·015	0·112	2·88	(2·59)	
Oatmeal (medium)	416	11·9	70·0	8·6	0·069	0·392	4·15	3·98	
Oatcakes	435	11·8	69·0	11·1	0·068	0·392	(4·15)	(3·98)	
Oats, Quaker	387	17·4	64·2	5·6	0·069	0·392	(4·15)	(3·98)	
Mealy pudding	530	9·9	45·9	32·4	0·071	0·332	3·20	3·07	
Rice, whole or ground	364	6·4	81·6	0·3	0·009	0·096	0·45	0·38	
,, ,, (unpolished)	361	6·8	80·0	0·6	0·084	0·290	2·00	(1·70)	
OTHER FARINACEOUS FOODS									
Arrowroot	355	0·2	86·4	trace	(0·023)	(0·090)	(1·60)	(1·44)	
Custard powder	349	0·3	84·6	0·2	0·006	0·003	(0·90)	(0·81)	
Rice custard powder	351	6·2	79·0	0·2	0·014	0·079	0·99	(0·89)	
Farola	358	12·5	72·2	1·2	0·183	0·089	(0·90)	(0·81)	
Force	383	11·4	79·5	1·1	(0·015)	(0·112)	(2·88)	(2·59)	
Macaroni	365	11·7	76·8	0·2	0·022	0·144	1·20	(1·10)	
Nutrina	365	4·6	83·4	0·4	0·011	0·096	(0·90)	(0·81)	
Sago	361	0·2	87·7	trace	(0·023)	(0·090)	(1·60)	(1·44)	
Semolina	366	11·4	75·3	1·1	(0·183)	(0·089)	(1·00)	(0·93)	
Tapioca	361	0·2	87·7	0·1	0·023	0·089	1·60	(1·44)	
JELLY AND PUDDING MIXTURES									
Gelatine	376	91·4	—	0·1	0·453	0·234	—	—	
Jelly, crystals	393	21·6	74·0	(0·1)	0·103	0·031	1·69	(1·69)	
,, cube	284	10·7	58·4	(0·1)	0·043	0·005	1·38	(1·38)	
Milk jelly crystals	(393)	(21·6)	(74·0)	(0·2)	0·027	0·004	1·75	(1·75)	
Junket powder	403	0·2	98·0	(0·1)	—	—	—	—	
Lemon curd, Beach's	314	2·1	61·4	5·8	0·037	0·019	1·00	(0·90)	
,, ,, v. cheap.	307	0·3	53·6	9·2	0·057	0·010	3·60	(3·20)	
Mincemeat	250	3·4	53·0	2·0	0·085	0·175	3·00	(2·70)	
Pudding mixt., Eiffel Tower	349	0·3	84·5	0·1	0·032	0·014	0·15	(0·14)	
Pudding mixt., Night Cap	359	5·1	81·8	0·3	0·009	0·084	0·15	(0·14)	
Pudding mixt., Viota sponge	367	5·1	82·8	0·7	0·324	0·480	0·15	(0·14)	
Fruit pie	406	2·6	61·5	15·4	0·005	0·022	0·24	(0·23)	
Trifle mixture, Quorn	379	10·4	77·0	2·2	0·044	0·075	1·95	(1·75)	

TABLE OF COMPOSITION OF FOODS (*continued*).

	Calories	Protein	Carbohydrate	Fat	Calcium (Ca)	Phosphorus (P)	Iron (Fe)		Percentage Waste
							Total	Avail.	
SUGARS AND ALLIED FOODS									
Sugar, white	410	—	100·0	—	—	—	—	—	
,, brown	402	—	98·0	—	—	—	—	—	
Lactose	410	—	100·0	—	—	—	—	—	
Syrup, golden	315	0·3	76·4	—	0·013	0·006	0·76	0·72	
Treacle	252	1·6	59·9	—	0·211	0·044	9·17	9·17	
Honey	294	0·4	71·4	—	0·004	0·019	0·70	(0·68)	
Jam	286	0·3	69·4	—	(0·022)	(0·022)	(0·22)	(0·17)	
Marmalade, grape fruit	(286)	(0·2)	(69·5)	—	(0·022)	(0·022)	(0·22)	(0·17)	
,, orange	286	0·2	69·5	—	(0·022)	(0·022)	(0·22)	(0·17)	
BEVERAGES									
Bournvita	425	13·1	72·3	8·1	0·090	0·428	4·50	(4·10)	
Chocolate	554	4·8	59·9	31·1	0·092	0·455	3·28	2·95	
Cocoa, Bournville	468	18·1	36·0	26·5	0·087	0·690	6·80	(6·30)	
Ovaltine	411	14·2	67·9	8·0	0·400	0·506	12·00	(10·80)	
CONDIMENTS									
Tomato sauce (Del Monte)	41	0·4	9·0	0·3	0·011	0·017	0·87	(0·58)	
Mayonnaise	782	2·5	—	83·0	0·007	0·018	0·25	(0·25)	
Salad cream	310	2·0	10·0	28·0	(0·007)	(0·018)	(0·25)	(0·25)	
MISCELLANEOUS									
Chocolate, milk	575	8·0	53·0	35·0	0·261	0·250	0·85	(0·77)	
,, plain	565	4·1	59·9	32·5	0·029	0·083	2·60	(2·34)	
Ginger, cryst.	359	—	87·5	—	—	—	—	—	
,, root	61	1·8	9·8	1·5	—	—	—	—	
Gravy salt, Walker	59	1·1	12·2	0·5	0·344	0·027	1·98	(1·90)	
Ruskoline	352	10·6	74·7	0·2	0·042	0·116	5·20	(4·60)	
Yeast(Fleischmann's)	96	14·1	8·2	0·5	0·024	0·561	trace	—	

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